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The surgeon and the COVID-19 pandemic

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In the fight against COVID-19, surgeons, are not in the front line. We, as surgeons, have always saw ourselves as leaders in the medical community and ready to respond to medical disaster for the community. We are always “on duty” and consider ourselves very helpful with a central role in managing patients. Nowadays, in the middle of the Covid-19 pandemic, we are facing a true sense of frustration and impotence, being, apparently, the least useful doctors on earth. The corona virus infection and its complications are cured by anesthesiologists, pulmonologists, infectious diseases doctors, general practioners, epidemiologists and many other specialists, but not surgeons. We are not needed and searched for, in this battle. Patients are also cancelling the surgical appointments. As a matter of fact, our action (i.e.: surgery) could pose a threat to the medical community fighting against the corona virus disease. We can subtract ventilators, PPE, ICU beds and other essential items to our Colleagues engaged in the war against the virus. We could also be a potential source of contamination.

In Italy, especially in the region of Lombardia, many surgeons have been recruited to handle patients in the ICU or in the ER, due to the shortage of medical personnel and the burden of work, but also due to the natural inclination of surgeons to care for critically ill patients. The response of the surgical community has been phenomenal. All the surgeons are longing for helping patients and Colleagues. This call alleviates our sense of uselessness but still, we need to redesign our clinical daily work and the way we perceive our job. A reflection is needed.

The surgical community in this pandemic has to deal with a difficult balance: treating patients with safety and optimize resources to hospitals dealing with COVID patients.

The American College of Surgeons and almost all the surgical Scientific Societies, wisely advised all their members, according to the CDC guidelines, to cancel or postpone the elective surgical procedures [1–3]. Guidance from the American College of Surgeons are to curtail “elective” surgical procedures. Nowadays we have been told to do many other things that we never wanted to hear. In the worse case scenarios (e.g.: many COVID-19 patients in the hospital with limited capacity of beds and ICU ventilators or, all hospital resources routed to COVID-19 patients), we should transfer surgical patients to other regions or

Hospitals that are not overwhelmed with COVID patients; prefer open surgery to laparotomy due to the potential presence of the virus in the aerosol or nebulized CO₂; choose alternative non-surgical therapies; avoid direct colorectal anastomosis to decrease the risk of leakage and the consequent risk of caring for sicker patients; manage stage T1a/b tumor endoscopically. All non-urgent diagnostic procedures (e.g.: endoscopy) are postponed. Non-essential personnell is banned from the hospital.

Even though medical solutions to COVID-19 evolve rapidly and hopefully, the pandemic soon will finish or decreases its impact on the health system, the surgical clinical setting is going to change for several months and what is astonishing is the rapid change in a matter of a week.

The first measure, to reduce the impact on the Health System, has been to implement the telemedicine. As a matter of fact, many of the surgical outpatient visits can be managed by a televisit. Patient's labs, CT scan, endoscopy can be seen and discussed just over the phone or internet. Tumor boards can be easily handled by a conference call. Indication for surgery are now decided and communicated, whenever possible, by phone or email. Emergent surgeries will be done strictly following CDC guidance, to avoid self or patients' contamination.

Communication to patients' families has also changed. Relatives are not allowed to stay in the hospital and, after surgery, they receive information over the phone. Surgeons are asked to be empathic with patient and relatives in a new way.

Several questions, however remain open. Should we perform elective surgeries to prevent complications and avoid future burden of patients at the end of the pandemic? Until when we are allowed to postpone diagnostic procedures (e.g.: endoscopy) with the risk of facing tomorrow, more advanced diseases? Should we stop training residents and fellows to reduce the number of staff in the OR, or should we allow trainees to follow the operation through internet or video in house? Should we allow families to stay in the room with dying patients? Can telemedicine cover all our need for recent post surgical cases (e.g.: chek for surgical wounds)? Should we prepare the health system to face a new global emergency distracting resources from the routine care? Should we reassign our co-workers to cover urgently needed COVID-19

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front line?

Surgical community has to quickly respond to these emerging issues. Given the uncertainty of the impact of COVID-19 over the next months, the surgeons have to face this emergency with an even stronger sound clinical judgment and strictly follow the Surgical Societies suggestions. Indications to delay surgery should be taken by a multi-disciplinary team. Patients should be consented also for the risk of being harmed by coronavirus infection.

A major effort is requested now to us during this crisis. We have to provide the same best possible care to our patients with scarcer resources. We are developing new skills during these days to respond to the difficult situation. It will require a great deal of time to return back to normal and very likely, in both medical and surgical clinical settings, the “old normal” will be substituted by a “new normal” [4]. Most Health Systems, will prepare long-term plans for a potential next pandemic. The surgeons need to be trained and play a central role in planning new strategy to fight possible medical global emergencies in the future.

The clinical scenarios in surgery could change in the future and the change we will see, is made in the weeks ahead us. The surgical community has to respond to this call.

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References

- [1] Surgical care and coronavirus disease 2019 (COVID-19). American College of surgeons, <https://www.facs.org/about-acsc/covid-19/information-for-surgeons>.
- [2] Surgical response to COVID-19 crisis, <https://sages.org/author/aurora-prior>.
- [3] Interim guidance for helathcare facilities: preparing for community transmission of COVID-19 in the United States, <https://www.cdc.gov/coronavirus/2019-ncov/healthcare-facilities/guidance-hcf.html> March 15 2020.
- [4] Thomas H. Lee, Creating the new normal: the clinician response to COVID-19, *NEJM catalyst*, (2020) March 17.